Maximum Contaminant Levels

- MCLs (review)
  - Enforceable drinking water standards
  - Adopted through the regulatory process
  - Set as close as *technologically & economically* feasible to Public Health Goal (PHG)
  - Primary emphasis: public health protection

- Technical Feasibility
  - Can we detect it & how low?

    (current status: new USEPA method 218.7 detects close to PHG - 0.06 vs 0.02 ppb)
  - Can it be removed from drinking water?

    (current status: yes--via two currently identified best available technologies (BATs))

- Economic Feasibility
  - Evaluation of costs to remove contaminant from drinking water

    (Includes capital, O&M, waste disposal, compliance sampling)

Status of City of Glendale Treatment Projects for Chromium-6 (Cr-6)

- Completed phases I through III of Project
  - Phase I - Screened all available technologies via bench-scale studies
  - Phase II
    - Completed pilot-scale studies for top-rated bench-scale studies and other known industrial clean-up technologies
    - Began evaluating long-term performance and initial estimation of treatment costs.
  - Phase III
    - Installed two demonstration scale treatment plants - Weak Base Anion (WBA) and Reduction-Coagulation-Filtration (RCF)
    - Gathered data on performance and capital and operation and maintenance costs
    - Refined and reported treatment costs data and estimates.

Status of City of Glendale Treatment Projects for Chromium-6 (Cr-6)

- Upcoming phases of research program - Phase III A, B, and C

  Goal: evaluate additional technologies for two demonstration plants for better performance and lower costs

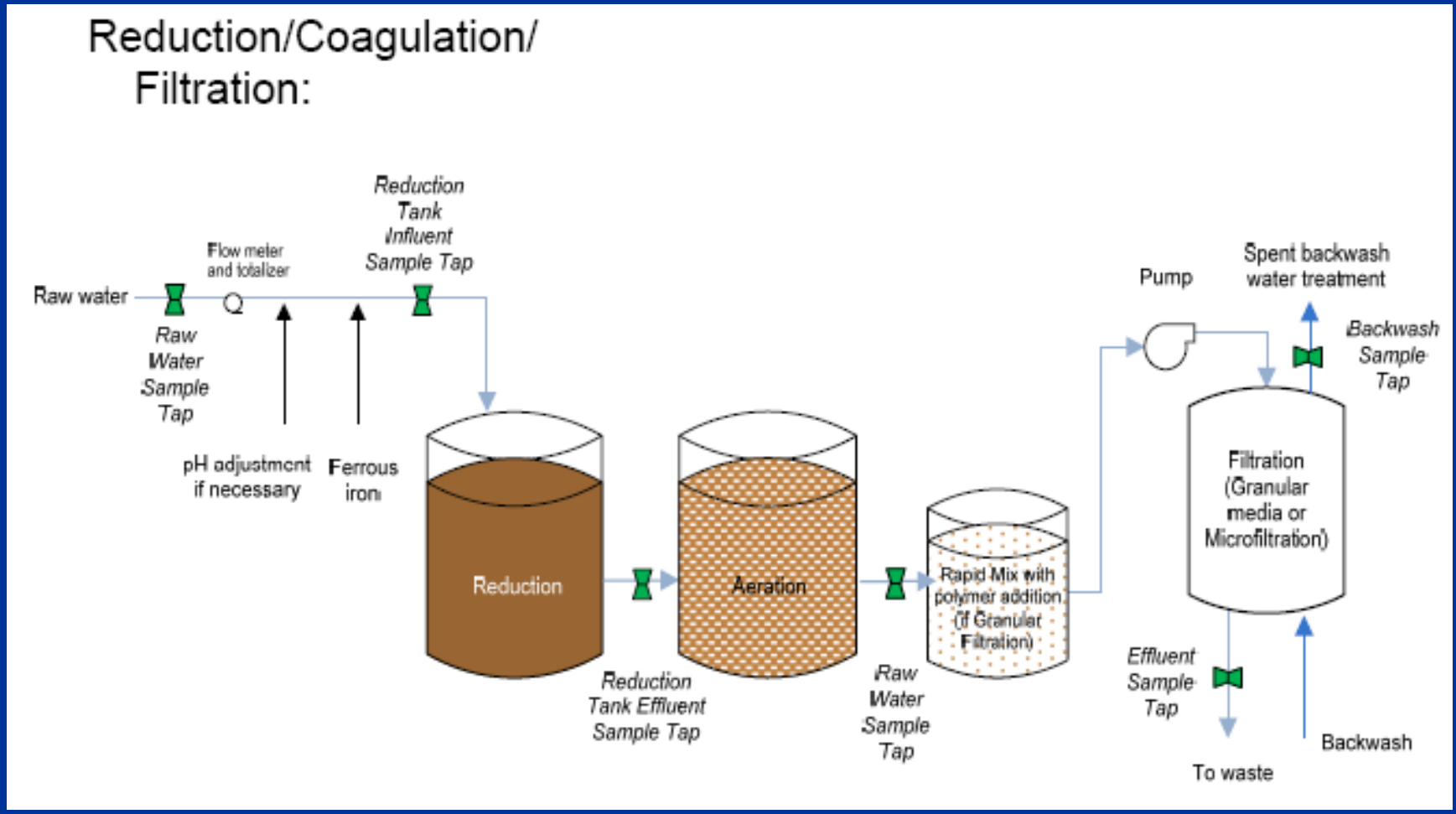
- Phase IIIA - Conventional filtration vs microfiltration (in progress; RCF only)

- Phase IIIB - Additional resin and adsorptive media pilot testing
  - Test plan to be submitted within next 4 weeks to include:
    - Verify WBA resin at northern CA WTP
    - Test additional WBAs at Glendale and Northern CA WTP
    - Test new Strong Base Anion (SBA) anion exchange resins (one-pass; cannot be re-used)
    - Test several adsorptive media

- Supplemental Demonstration Testing (Future)

Glendale Water and Power Chromium 6 Treatment Demonstration Facilities

RCF Flow Diagram



GWP Demonstration Facility - RCF

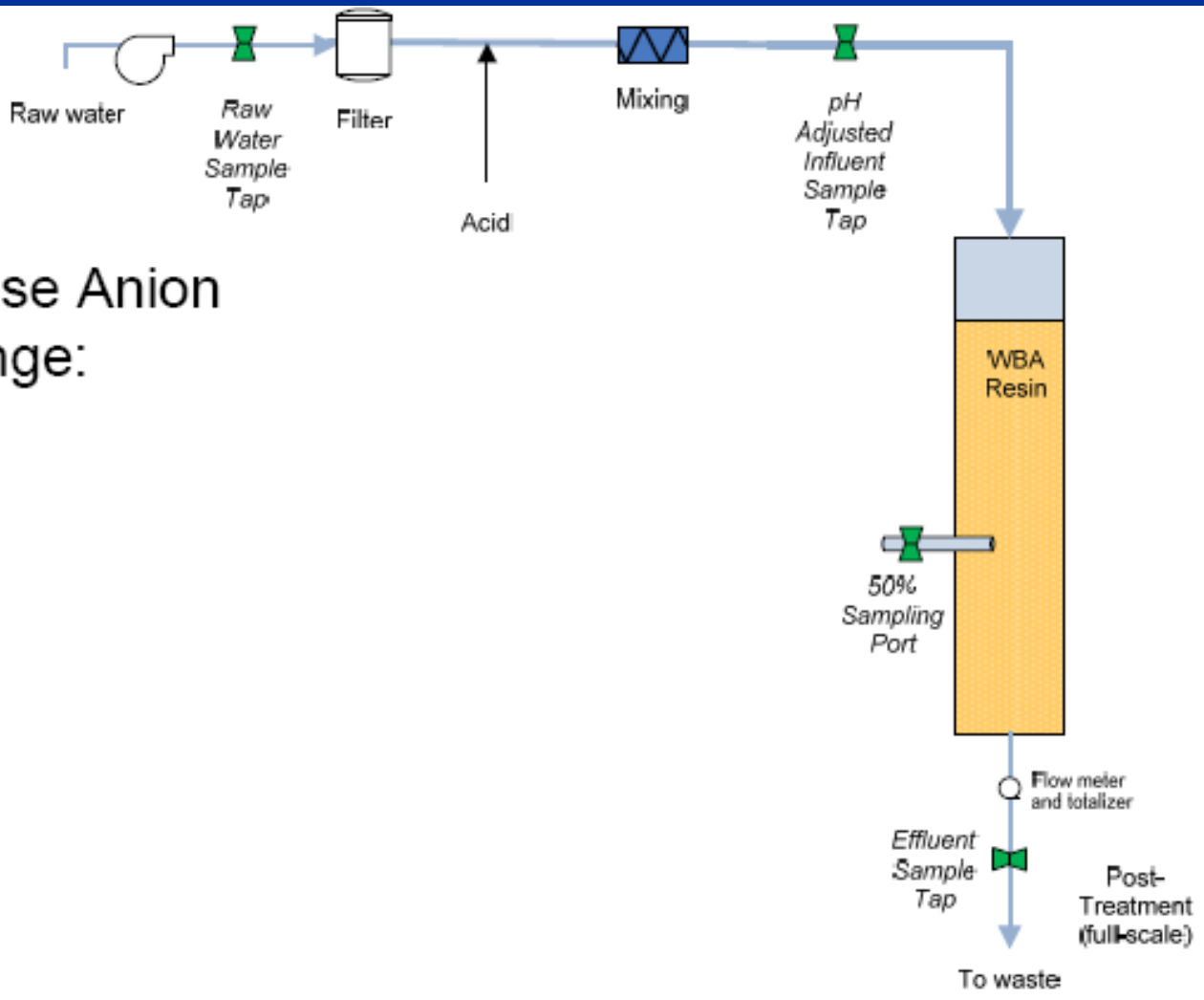
- Demo Scale
- 100 gpm
- Partial treatment of Well GN-3

Objectives:

- Determine possible level of treatment
- Test opportunities for reducing costs
- Optimize O&M procedures
- Determine residuals disposal strategy
- Verify and update costs

Anion Flow Diagram

Weak Base Anion Exchange:



GWP Demonstration Facility - WBA

- Demo Scale
- 425 gpm
- Full treatment of Well GS-3

Objectives:

- Confirm resin capacity for Cr(VI)
- Identify any water quality impacts
- Optimize O&M procedures
- Determine residuals disposal strategy
- Verify and update costs

Issues Requiring Refinement

- Capital costs
- Operation & maintenance costs
- Strong vs. weak-base anion exchange
- Varying water chemistry effect on BATs
- Disposal costs associated with residual waste
- Distribution system chemistry